

REMARKS/ARGUMENTS

Claims 16 and 17 are amended. Claims 2, 4, 5, 15 and 19-32 are canceled. New claims 33-36 are added. The amendments are supported by the original claims and by the specification in paragraph [0074]. No new matter has been added. Reconsideration and allowance of the claims in view of the above amendments and the remarks that follow are respectfully requested.

Rejections under 35 U.S.C. §102

Claims 2, 4, 5, 15-17 and 19-24 are rejected under 35 U.S.C. §102(b) as being anticipated by JP05058624 (hereinafter "JP624"). Applicants respectfully traverse the rejection.

For anticipation under 35 U.S.C. §102, the reference "must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present." See MPEP §706.02, IV. The Federal Circuit has consistently held that prior art is anticipatory only if every element of the claimed invention is disclosed in a single item of prior art in the form literally defined in the claim. See e.g., *Jamesbury Corp. v. Litton Indus. Products*, 756 F.2d 1556, (Fed. Cir. 1985); *Atlas Powder Co. v. DuPont*, 750 F.2d 1569, (Fed. Cir. 1984); *American Hospital Supply v. Travenol Labs*, 745 F.2d 1 (Fed. Cir. 1984).

Independent claim 16 is directed to a method for recovering barrier function in a skin, comprising: applying to an effective amount of a skin external composition comprising 1-40% by weight of an insoluble powder having a negative value of zeta-potential measured in Tris-HCl buffer at pH 7.5 and a main ingredient of barium sulfate doped with a metal ion; wherein said powder has an average primary particle diameter of 3 to 100 μm and aspect ratio of 3 to 250; and wherein said metal ion is one selected from the group consisting of lithium, sodium and zinc.

Independent claim 17 is directed to a method for preventing roughness and improving conditions of a skin comprising: applying to an effective amount of a skin external composition comprising 1-40% by weight of an insoluble powder having a negative value of zeta-potential measured in Tris-HCl buffer at pH 7.5 and a main ingredient of barium sulfate doped with a metal ion; wherein said powder has an average

primary particle diameter of 3 to 100 μm and aspect ratio of 3 to 250; and wherein said metal ion is one selected from the group consisting of lithium, sodium and zinc.

JP624 fails to teach or suggest “a skin external composition comprising 1-40% by weight of an insoluble powder having a negative value of zeta-potential measured in Tris-HCl buffer at pH 7.5 and a main ingredient of barium sulfate doped with a metal ion,” as recited in amended claims 16 and 17. The Examiner alleges that the “negative zeta-potential” does not give it patentable weight, because “a zeta potential value on its own without defining the solution condition is a virtually meaningless number” (the Office Action, page 4). Claims 16 and 17, as amended, now recite the conditions for measuring the zeta-potential.

Moreover, JP624 fails to disclose a composition comprising 1-40% by weight of an insoluble powder having an aspect ratio of 3 to 250, as recited in amended claims 16 and 17.

In addition, as discussed in the response filed on May 15, 2009, the specification explicitly teaches that barium sulfate and barium sulfate doped sulfate are made from different methods. In particular, the specification teaches that a powder of barium sulfate is prepared by a conventional two-solution method such as a method of mixing a barium compound solution containing a barium ion and a sulfate compound solution containing a sulfate ion at a reaction temperature of 50 to 100°C. The Specification then teaches that the powder of barium sulfate doped with a metal is prepared by reacting a barium ion with a sulfate ion in the presence of a metal ion using a two-step, three-solution method. For example, the doped barium sulfate is obtained by mixing (A) a barium compound solution containing a barium ion with (B) a metal salt compound solution containing a doping ion and, thereafter, adding (C) a sulfate compound solution containing a sulfate ion to the mixture of A and B. Alternatively, doped barium sulfate is obtained by mixing A and C, and then add B to the mixture. (*See, e.g.*, paragraphs [0053]-[0058]).

Accordingly, claims 16 and 17 are not anticipated by JP624 because JP624 does not teach or suggest every aspect of the claimed invention. Claims 33-36 are patentable over JP624 because they depend from one of claims 16 and 17 and recite additional patentable subject matter. Withdrawal of the rejection to claims 16 and 17 under 35

U.S.C. §102 is respectfully requested. Claims 2, 4, 5, 15 and 19-24 have been canceled. Rejection to these claims is now moot.

Rejections under 35 U.S.C. §103

Claims 2, 4, 5, 15 and 19-24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bloom in view of CA2,374,539 (hereinafter "CA539"). Claims 2, 4, 5, 15-17 and 19-24 are rejected under 35 U.S.C. §103(a) as being unpatentable over JP624 in view of US6,632,276 (hereinafter US276). Applicants respectfully traverse the rejections.

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be considered (MPEP 2143.03). The key to supporting any rejection under 35 U.S.C. §103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. §103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 82 USPQ2d at 1396 and MPEP 2142.

Independent claims 16 and 17, as amended, recite "a skin external composition comprising 1-40% by weight of an insoluble powder having a negative value of zeta-potential measured in Tris-HCl buffer at pH 7.5 and a main ingredient of barium sulfate doped with a metal ion." Bloom does not teach or suggest "an insoluble powder having a negative value of zeta-potential measured in Tris-HCl buffer at pH 7.5." As noted above, claims 16 and 17, as amended, now recite the conditions for measuring the zeta-potential. Bloom also fails to teach or suggest doped barium sulfate is effective in recovering barrier function in a skin and preventing roughness and improving conditions of a skin, as recited in claim 16 and 17, respectively.

CA539 does not cure the deficiencies of Bloom. CA539 relates to a chromium-free aqueous anticorrosive and is cited for its teachings on the size and amount of doped barium sulfate. CA539 does not teach or suggest "an insoluble powder having a negative

value of zeta-potential measured in Tris-HCl buffer at pH 7.5.” Nor does CA539 mention anything about the effect of doped barium sulfate in recovering barrier function in a skin and preventing roughness and improving conditions of a skin, as recited in amended claims 16 and 17. Therefore, claims 16 and 17 are patentable over Bloom and CA539.

JP624 also fails to teach or suggest “an insoluble powder having a negative value of zeta-potential measured in Tris-HCl buffer at pH 7.5.” Moreover, as noted earlier, JP624 describes a non-doped barium sulfate powder produced by the “conventional” one-step, two-solution method. A person of ordinary skill in the art would understand that it is impossible to obtain barium sulfate doped with a metal with the JP624 method while maintaining the effect desired in JP624. If a person of ordinary skill in the art attempts to dope the barium compound with a metal by using the sulfate compound, such as Na_2SO_4 in large molar excess, the pH of the solution would become acidic because of the excessive SO_4^{2-} . The acidic environment would lead to the formation of barium sulfate particles with diameters that are smaller than the desired range of 4-20 micron. It should be noted that JP624 does not use any metal containing sulfate compound in any of its five examples.

In addition, JP624 also fails to teach or suggest that doped barium sulfate is effective in recovering barrier function in a skin and preventing roughness and improving conditions of a skin. Therefore, JP624 provides no motivation for one skilled in the art to use doped barium sulfate to obtain the skin-care effects recited in claims 16 and 17.

US276 do not cure the above-described deficiencies of JP624. US276 is directed to an electrically conductive pigments and is cited for its teachings on the size and aspect ratio of barium sulfate particles. US276 does not teach or suggest “an insoluble powder having a negative value of zeta-potential measured in Tris-HCl buffer at pH 7.5.” Nor does US276 mention anything about doped barium sulfate or the effect of doped barium sulfate in recovering barrier function in a skin and preventing roughness and improving conditions of a skin, as recited in amended claims 16 and 17. Therefore, claims 16 and 17 are patentable over JP624 and US276.

In sum, claims 16 and 17 are patentable over Bloom in view of CA539 or JP624 in view of US276, because the cited references, individually or in combination, do not teach or suggest every aspect of the claimed invention. Claims 33-36 are patentable because they depend from one of claims 16 and 17 and recite additional patentable subject matter. For example, none of the cited references teach or suggest a doped barium sulfate wherein the barium ion, the sulfate ion and the metal ion has a mole ratio of 1 to 0.5-2.0 to 0.001-10, as recited in claims 34 and 36. Withdrawal of the rejection to claims 16 and 17 under 35 U.S.C. §103 is respectfully requested. Claims 2, 4, 5, 15 and 19-24 have been canceled. Rejection to these claims is now moot.


Conclusion

In view of the above remarks, Applicant respectfully submits that the application is in condition for allowance. Prompt examination and allowance are respectfully requested.

Should the Examiner believe that anything further is desired in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

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Michael Ye, Ph.D.
Registration No. 47,195
Andrews Kurth LLP
1350 I Street, NW
Suite 1100
Washington, D.C. 20005
Telephone: (202) 662-3008
Fax: (202) 662-2739